

A

AAC	Aluminum Arch Culvert
AADT	Annual Average Daily Traffic
ABC	Aggregate Base Course
Abut	Abutment
ACM	Asbestos Containing Materials
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AE	Architect-Engineer, Architecture, Engineering
AEC	Architecture, Engineering and Construction
AGA	American Gas Association
Alt	Alternate
API	American Petroleum Institute
APL	Approved Products List
Approx	Approximate
APWA	American Public Works Association
AQCC	Air Quality Control Commission
ARE	Additional Requested Element (Design/Build Terminology)
AREMA	American Railway Engineering & Maintenance-of-Way Association
AHSTA	Ahead Station
ARA	Asphalt Rejuvenating Agent
ASBI	American Segmental Bridge Institute
ASD	Allowable Stress Design
ASDP	American Society of Photogrammetry
ASR	Alkali Silica Reactivity
ASSE	American Society of Sanitary Engineering, American Society of Safety Engineers
Asst	Assistant
ATB	Asphalt Treated Base
ATM	Active Traffic Management
AUTS	Actual Ultimate Tensile Strength

B

Bk to Bk	Back to Back
BEI	By Equal Increments
BM	Bench mark
BPF	Blows per Foot
BAFD	Best and Final Offer
Bbl	Barrels
BC	Bolt Circle
Beg	Begin
Bk	Back
Bldg	Building
BLM	Bureau of Land Management

Blvd	Boulevard
BMP	Best Management Practice
BNSF	Burlington Northern & Santa Fe Railroad
Bott	Bottom
BP	Bearing Pressure
Brg	Bearing
Bk Sta	Back Station
BT	Beginning of Transition
Btwn	Between

C

℄	Centerline
C&G	Curb and Gutter
CA	Concrete Arch
CAC	Concrete Arch Culvert
CAD	Computer Aided Design, Computer Aided Drafting
CADD	Computer Aided Design and Drafting
CBC	Concrete Box Culvert
CBG	Concrete Box Girder
CBGC	Concrete Box Girder Continuous
CBGCP	Concrete Box Girder Continuous Prestressed
CBGP	Concrete Box Girder Prestressed
CBGS	Concrete Box Girder Segmented
CBR	California Bearing Ratio
CCR	Code of Colorado Regulations, as amended
CDTPG	Concrete Double-Tee Prestressed Girder
CE	Construction Engineering
CF	Cubic Feet
CFS	Cubic Feet per Second
CG	Center of Gravity
CHP	Colorado Highway Patrol
CI	Cast Iron or Concrete on Rolled I-Beam
CIC	Concrete on Rolled I-Beam Continuous
CICK	Concrete on Rolled I-Beam Continuous & Composite
CICKP	Concrete on Rolled I-Beam Continuous & Composite Prestressed
CIK	Concrete on Rolled I-Beam Composite
CIKP	Concrete on Rolled I-Beam Composite Prestressed
CIP	Cast-in-Place or Cost in Place
CIR	Cold In-Place Recycling
Clr	Clear
cm	Centimeters
CM	Corrugated Metal

CMAQ	Congestion Mitigation Air Quality
CMP	Corrugated Metal Pipe
CMU	Concrete Masonry Unit
CDC	Certificate of Compliance
Col	Column
Comp	Composite
Conc	Concrete
Conn	Connection
Const	Construction
Const Jt	Construction Joint
Cont	Continuous
Corr	Corrugated
CPE	Corrugated Polyethylene Pipe
CPG	Concrete Prestressed Girder (Precast)
CPGC	Concrete Prestressed Girder Continuous (Precast)
CPT	Corrugated Polyethylene Tubing
CR	County Road
CRF	Concrete Rigid Frame
CS	Curve to Spiral, Commercial Standard, Concrete Slab
CSC	Concrete Slab Continuous
CSG	Concrete Slab & Girder (Poured in Place)
CSGC	Concrete Slab & Girder Continuous (Poured in Place)
CSGCP	Concrete Slab & Girder Continuous Prestressed (Poured in Place)
CSGP	Concrete Slab & Girder Prestressed (Poured in Place)
Csk	Countersunk
CSL	Cross Hole Sonic Logging
CSP	Corrugated Steel Pipe or Concrete Slab Prestressed
CSPC	Concrete Slab Prestressed Continuous
CTB	Cement Treated Base
CTR	Certified Test Reports
Ctr	Center
CY	Cubic Yards
CZ	Clear Zone

D

D	Degree of Curvature, or Density
DB	Design Build
DAS	Deformed Anchor Stud
dB	decibels
DBA	Deformed Bar Anchor
Dbl	Double

GENERAL NOTES

- ABBREVIATIONS SHOULD BE UPPER AND LOWER CASE LETTERS EXCEPT WHERE ALL UPPER CASE LETTERS ARE REQUIRED.  
Const Jt = Construction Joint
- ACRONYMS SHALL BE ALL UPPER CASE LETTERS.  
CBC = Concrete Box Culvert
- ABBREVIATIONS SHALL BE USED ONLY WHEN THE WORDS CANNOT BE COMPLETELY SPELLED OUT DUE TO MULTIPLE FACTORS, SUCH AS A LACK OF SPACE ON THE SHEET.

Deg, °F, °C,	Degrees (Thermal) - Degrees Fahrenheit, Degrees Celsius
Dgn	Design or MicroStation Drawing
DH	Design Height or Avg height for qty calculations
DHV	Design Hour Volume
DHW	Design High Water
DI	Ductile Iron
Dia	Diameter
DNR	Department of Natural Resources
DOW	Division of Wildlife (Colorado)
DRCDG	Denver Regional Council of Governments
DTD	Division of Transportation Development (CDOT)
DTM	Digital Terrain Model
Dwg	AutoCAD Drawing

E

e.g.	Exempli Gratia (For Example)
EA	Environmental Assessment
EATB	Emulsified Asphalt Treated Base
EB	Eastbound
EF	Each Face
Elev	Elevation
Engr	Engineer
EPA	Environmental Protection Agency
EPDM	Ethylene Propylene Diene Monomer-class rubber
Eq	Equal
ESAL	Equivalent Single Axle Load
Est	Estimate
ET	Ending of Transition
EVT	Event Point (InRoads Terminology)
EW	Each Way
E	Expansion Bearing
Exc	Excavation
Exp Jt	Expansion Joint
Ext	Exterior

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ACRONYMS AND ABBREVIATIONS

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STANDARD PLAN NO.

M-100-2

Standard Sheet No. 1 of 4

Project Sheet Number:

F

F Fixed Bearing  
 FL Flow Line  
 FAA Federal Aviation Administration  
 FASB Foamed Asphalt Stabilized Base  
 FCM Fracture Critical Member  
 FDR Full Depth Reclamation  
 Fed Federal  
 FEMA Federal Emergency Management Agency  
 FES Flared End Section  
 FF Far Face or Front Face  
 Fig Figure  
 Fin Finished  
 Fl Floor  
 Flg Flange  
 FM Factory Mutual  
 FMM Field Materials Manual  
 FPM Feet Per Minute  
 FPS Feet Per Second  
 FRA Federal Railroad Administration  
 Freq Frequency  
 FRP Fiber Reinforced Polymer  
 FS Planned Finish Surface  
 Ft Feet  
 Ft Kip Foot Kips  
 Ft Lb Foot Pounds  
 FTA Federal Transit Administration  
 Ftg Footing  
 FWD Falling Weight Deflectometer

G

Ga Gage or Gauge  
 Gal Gallons  
 Galv Galvanized  
 Gd Guided expansion bearing  
 Gir, G Girder  
 GIS Geographical Information System  
 GL Girt Line  
 GPM Gallons Per Minute  
 GPS Global Positioning System  
 GRI Geosynthetic Research Institute  
 GRS Geosynthetic Reinforced Soil  
 GSI Geosynthetic Institute

H

HAS Headed Anchor Stud  
 HAZMAT Hazardous Materials  
 HC Horizontal Clearance  
 HCL Horizontal Control Line  
 HCM Highway Capacity Manual  
 Hd Head  
 HDPE High Density Polyethylene  
 HDPP High Density Polypropylene  
 Hex Hd Hexagonal Head  
 HID High Intensity Discharge (Lamps)  
 HIR Hot In-Place Recycling  
 HLMR Highload Multi-Rotational  
 HMA Hot Mix Asphalt  
 Horiz Horizontal  
 HDV High-Occupancy Vehicle  
 HP Horsepower  
 HPC High Performance Concrete  
 HS High Strength  
 Ht Height  
 HW High Water  
 Hwy Highway  
 Hyd Hydraulic

I

ICEA Insulated Cable Engineers Association  
 ID Inside Diameter  
 IMP Incident Management Plan  
 In. Kips Inch Kips  
 In. Lb. Inch Pounds  
 In. Inches  
 Incl Included  
 Int Interior  
 Inv Invert  
 IRI International Roughness Index  
 ISO International Organization for Standards  
 ITAA Information Technology Association of America  
 ITS Intelligent Transportation System  
 IVHS Intelligent Vehicle Highway System

J

JB Junction Box  
 JPCP Jointed Plain Concrete Pavement  
 Jt Joint

K

Kip Thousand Pounds  
 KSF kips per square foot  
 KSI Kips per square inch  
 KW Kilowatt

L

L Length, Angle (steel)  
 Lb Pounds  
 Lb/Ft pound per foot  
 Lb/SY Pounds per square yard  
 Lb-Ft pound foot  
 LCCA Life Cycle Cost Analysis  
 LED Light Emitting Diode  
 LEED Leadership in Energy and Environmental Design  
 LF Linear Feet  
 LFD Load Factor Design  
 LL Liquid Limit  
 LLDPE Linear Low-Density Polyethylene  
 LRFD Load and Resistance Factor Design  
 LS Lump Sum or Length of Spiral  
 Lt Left  
 LTB Lime Treated Base  
 LTDS Required Long Term Design Strength  
 Lum Luminaire

M

m Meters  
 MA Mobile Attenuator  
 Maint Maintenance  
 MARV Minimum Average Roll Value  
 Matl Material  
 Max Maximum  
 MBTA Migratory Bird Treaty Act

MFBM Thousand Foot Board Measure  
 Mfg Manufactured or Manufacturer  
 MHT Method of Handling Traffic  
 Mi Mile  
 Min Minimum  
 Misc Miscellaneous  
 mm Millimeters  
 MP Milepost  
 MPH Miles Per Hour  
 MR Resilient Modulus  
 MR Modulus of Rupture

N

NAD North American Datum  
 NAVD North American Vertical Datum  
 NB Northbound, Total Number of Blocks  
 NDES Recommended SuperPave™ Gyratory Design Revolution  
 NDT Nondestructive Testing  
 NECA National Electrical Contractors Association  
 NEPA National Environmental Policy Act  
 NESC National Electric Safety Code  
 NF Near Face  
 NFPA National Fire Protection Association  
 NGS National Geodetic Survey  
 NGVD National Geodetic Vertical Datum of 1929  
 NHS National Highway System  
 NICET National Institute for Certification of Engineering Technologies  
 NIP Nail in Place  
 NMAS Nominal Maximum Aggregate Size  
 No Number  
 Nom Nominal  
 NPDES National Pollutant Discharge Elimination System  
 NPT National Pipe Thread  
 NS Near Side  
 NTCIP National Transportation Communications for ITS Protocol  
 NTP Notice to Proceed  
 NTS Not to Scale

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Standard Sheet No. 2 of 4

Project Sheet Number:

O

OC On Center  
 OD Outside Diameter  
 DGFC Open Grade Friction Course  
 DJT On-the-Job Trainee or On-the-Job Training  
 Opp Hand Opposite Hand  
 oz Ounces

P

PC Point of Curve  
 PCA Portland Cement Association  
 PCBC Concrete Box Culvert Precast  
 PCC Point of Compound Curve  
 PCCP Portland Cement Concrete Pavement  
 PDA Pile Driving Analyzer  
 PE Preliminary Engineering, or Professional Engineer or Permanent Easement  
 Ped Pedestrian  
 PG Profile Grade or Performance Grade  
 PGL Profile Grade Line  
 PI Point of Intersection  
 PL, Pl Plate  
 PLS Professional Land Surveyor  
 PM Project Manager  
 PMBB Plant Mix Bituminous Base  
 PMBP Plant Mix Bituminous Pavement  
 PMSC Plant Mix Seal Coat  
 PDC Point on Curve  
 PDSS Point of Slope Selection  
 PDT Point on Tangent  
 PPE Personal Protective Equipment  
 PRC Point of Reverse Curve  
 Proj Project or Projection  
 psf Pounds per square foot  
 psi Pounds per square inch  
 PT Point of Tangent  
 PTFE Polytetrafluoroethylene  
 PTI Post-Tensioning Institute  
 PUC Public Utilities Commission  
 PVC Poly Vinyl Chloride (pipe), Point of Vertical Curve  
 PVI Point of Vertical Intersection  
 Pvmt Pavement  
 PVT Point of Vertical Tangency

Q

Q Peak Discharge or Flow Volume  
 QA Quality Assurance  
 QC Quality Control  
 QMP Quality Management Plan  
 QML Qualified Manufacturers List

R

R Radius  
 RA Rubble Arch  
 RAC Rubble Arch Culvert  
 rad radians  
 RAP Reclaimed Asphalt Pavement  
 RAS Reclaimed Asphalt Shingles  
 RC Reverse Crown  
 RCC Roller Compacted Concrete  
 RCP Reinforced Concrete Pipe  
 RCPC Reinforced Concrete Pipe Culvert  
 Rdwy Roadway  
 RE Resident Engineer or Railroad Easement  
 Ref Reference  
 Reinf Reinforcing  
 Rem Remove or Removal  
 Repl Replace  
 Req Required  
 Rev Revised, Revision  
 RG Riveted Plate Girder  
 RGC Riveted Plate Girder Continuous  
 RL Reinforcement Length  
 RME Region Materials Engineer  
 rpm Revolutions Per Minute  
 RSC Rigid Steel Conduit  
 RSS Reinforced Soil Slope  
 Rt Right  
 RTD Region Transportation Director or Regional Transportation District  
 RWIS Road Weather Information System

S

SA Steel Arch  
 SAC Steel Arch Culvert  
 San Sanitary  
 SB Southbound  
 SBA Small Business Administration  
 SBG Steel Box Girder  
 SBGC Steel Box Girder Continuous  
 SC Spiral to Curve  
 Sch Schedule  
 SCS Spiral Curve Spiral  
 SDG Steel Deck Girder  
 SDGC Steel Deck Girder with Floor Beam System  
 SDGCK Steel Deck Girder Continuous & Composite  
 SDI Steel Decks Institute  
 SDT Steel Deck Truss  
 Sdwk Sidewalk  
 Sect Section  
 SF Square Feet  
 SH State Highway  
 Shldr Shoulder  
 SHPD State Historic Preservation Office  
 SHRP Strategic Highway Research Program  
 Sht Sheet  
 SIGN Overhead Sign  
 SIGNB Overhead Sign-Butterfly  
 SIGNC Overhead Sign-Cantilever  
 SIGND Overhead Sign + Cantilever  
 Sim Similar  
 SIP Stay in Place  
 SJI Steel Joists Institute  
 SLT Steel Low Truss  
 SMA Stone Matrix Asphalt  
 SN Structural Number  
 Spa Spaces or Spaced  
 Specs Specifications  
 SpG Specific Gravity  
 Spl Splice  
 Sq In Square Inches  
 Sq Mi Square Miles  
 Sq Square

SRW Segmental Retaining Walls  
 SSE Steel Stringer-Earth Filled  
 SSM Steel Stringer-Metal Plank Deck  
 SSMC Steel Stringer-Metal Plank Deck Continuous  
 SSPC Society for Protective Coatings  
 SSS Steel Stringer-Timber Deck  
 SSSC Steel Stringer-Timber Deck Continuous  
 ST Spiral to Tangent  
 St Straight or Street  
 Sta Station  
 Std Standard  
 STG Steel Thru Girder  
 Str Structure, Structural  
 STT Steel Thru Truss  
 SUSP Suspension Bridge  
 SY Square Yards  
 Sym Symmetrical

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STANDARD PLAN NO.

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Standard Sheet No. 3 of 4

Project Sheet Number:

T

T&B	Top and Bottom
T&E	Threatened & Endangered Species
T	Tons
TAS	Threaded Anchor Stud
TBC	Timber Box Culvert
TC	Tangent to Curve
TCD	Traffic Control Devices
TCP	Traffic Control Plan
TD	Timber Stringer (Untreated) Concrete Deck
TDH	Total Dynamic Head
Temp	Temporary or Temperature
Thd	Thread
THHN	Thermoplastic High Heat-resistant Nylon coated (Insulation designation for wire)
THWN	Thermoplastic High Water-resistant Nylon coated (Insulation designation for wire)
TIG	Tungsten Inert Gas (Welding)
TLA	Timber Laminated Arch (Gluelam)
TLS	Timber Laminated Stringer (Gluelam)
TLT	Timber Low Truss
TM	Timber Stringer (Untreated) Metal Deck
TMP	Transportation Management Plan
Tot	Total
TPI	Threads per Inch
TS	Tangent to Spiral, Timber Stringer (Untreated) Timber Deck
TSLAB	Timber Slab
TTC	Timber Culvert
TTD	Timber Stringer-Concrete Deck
TTM	Timber Stringer- Metal Deck
TTS	Timber Stringer- Timber Deck
TTT	Timber Thru Truss
TUNC	Tunnel-Concrete Lined
TUNR	Tunnel-Thru Rock-No Lining
Typ	Typical

U

UG	Underground
UNC	Uniform National Coarse (screw thread)
UNCC	Utility Notification Center of Colorado
UNF	Uniform National Fine (screw thread)
UND	Unless Noted Otherwise
UPRR	Union Pacific Railroad
UPS	Uninterruptible Power Supply
USACE	United States Army Corp of Engineers
USCS	Unified Soil Classification System
USDA	United States Department of Agriculture
USDDT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	US Geological Survey
Util	Utility or Utilities
UV	Ultraviolet

V

VC	Vertical Curve
VCP	Vitrified Clay Pipe
Veh	Vehicle
Vert	Vertical
VFA	Voids Filled With Asphalt
VMA	Voids in the Mineral Aggregate
VMS	Variable Message Sign
Vol	Volume
VPC	Vertical Point of Curvature
VPI	Vertical Point of Intersection
VPT	Vertical Point of Tangency

W

W/C	Water-Cement Ratio
WALL	Retaining Wall
WB	Westbound
WBS	Work Breakdown Structure
WF	Wide Flange (Steel section)
WG	Welded Girder
WGC	Welded Girder Continuous
WGCK	Welded Girder Continuous & Composite
WGCKP	Welded Girder Continuous, Composite Prestressed
WGK	Welded Girder Composite
WGKP	Welded Girder Composite Prestressed
WIMS	Weigh-In-Motion Station
WP	Work Point
WQCD	Water Quality Control Division (Colorado Department of Public Health and Environment)
WRI	Wire Reinforcement Institute
WS	Water Surface
WSN	Weighted Structural Number
Wt	Weight
WWF	Welded Wire Fabric, typically referred to very light gauge wire for crack control
WWR	Welded Wire Reinforcement

Y

Yd	Yard
----	------

SYMBOLS

400	#4 REBAR BENDING SHAPE
500	#5 REBAR BENDING SHAPE
600	#6 REBAR BENDING SHAPE
@	at
&	and
φ ∅	Diameter
°, ', "	Degrees, Minutes, Seconds
', "	Feet, inches
#	Number or Pound
ⓔ	Epoxy Coated Rebar
Ⓝ	Non-Epoxy Coated Rebar
ⓧ	Girder Label
°F	Fahrenheit
°C	Celsius
≈	Approximate
Ⓢ	Interstate Highway
Ⓡ	US Highway
Ⓢ	State Highway

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